

# Evaluating Outreach and Translation: Leaving the High, Hard Ground





# Evaluation Defined

e-val-u-a-tion *n.*

the act of considering or examining something  
in order to judge its value, quality, importance,  
extent or condition



# What is the goal of evaluation?

- to generate PR - “good news”?
- to enhance collective learning?
- to generate new knowledge?
- to provide a competitive mechanism?

# *Science: The Endless Frontier*

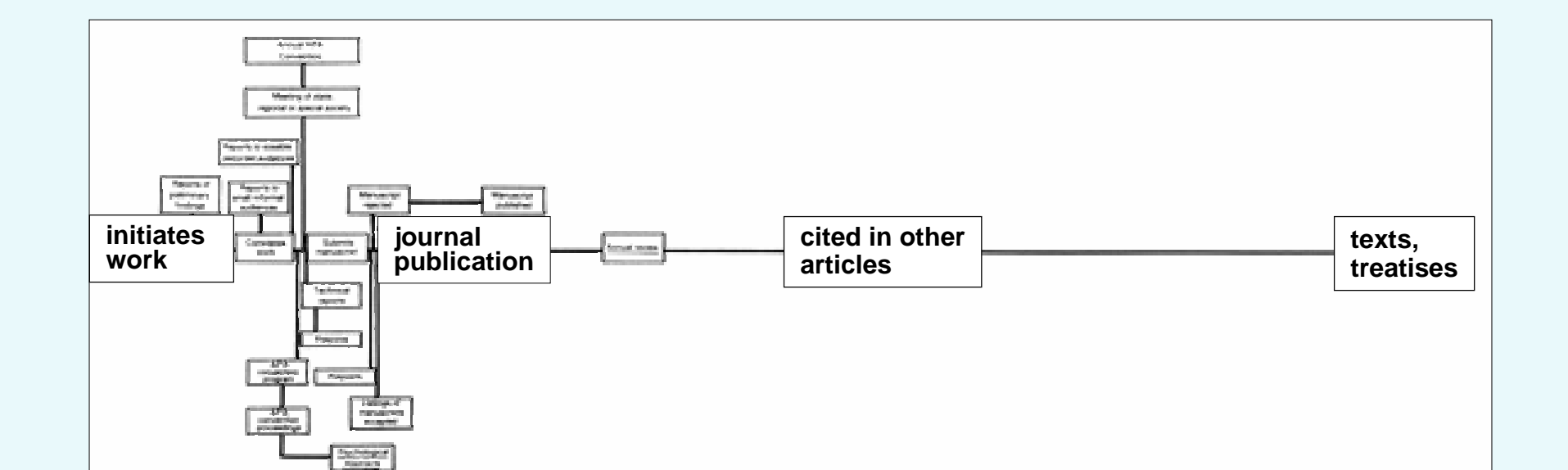
“Scientific progress on a broad front results from the **free play of free intellects**, working on subjects of their own choice, in the manner dictated by their curiosity for exploration of the unknown.”

Vannevar Bush , July 1945




from *Time*, 1944/04/03

“...from the time the research scientist initiates his work until his findings becomes integrated into the fund of scientific knowledge.”



Garvey, 1979



# Emergence of a distributed knowledge production system

“Acquiring data is no longer the major hurdle –  
managing, validating and understanding the data are  
the new challenges....”

Environmental Science and Engineering for the 21st Century  
*The Information Explosion and the Technology Revolution*  
National Science Board, 2000



# Research “in the context of application”

## Traditional

## Emerging

problems defined, solved by  
specific (academic) community

disciplinary

homogeneity of skills

hierarchical, preserves form

accountable to “invisible college”

peer review

knowledge produced in context of  
application

transdisciplinary

heterogeneity of skills

flatter, transient structures

socially accountable and reflexive

expanded system of quality control



## “Translational research”

“...*conversion of findings* from basic, clinical or epidemiological environmental health sciences *into information, resources or tools* that can be applied by health care providers and community residents *to improve public health* outcomes in at-risk neighborhoods...”

NIEHS Strategic Plan 2000





## SBRP 2005 RFA

“...the NIEHS considers research supported by the SBRP to be an *accountable enterprise*.”

“...the research *should lead to its application*...”

“ ...must be *proactive in translating* the scientific accomplishments emanating from the Program to its stakeholders — whether to the public through *community* outreach, to *industry* via technology transfer, or to *government* through partnerships.”



# SBRP 2005 RFA

- *actively communicate* research outcomes to appropriate audiences
- develop *partnerships* for communication and technology transfer
- create opportunities for receiving *feedback*
- develop workshops, courses, *collaborative* projects
- *actively involve the community* in decision-making



# Evaluating transdisciplinary science

“...the legitimacy of outputs may be called into question...”

Gibbons et al, 1994



# Peer review for SBRP

**(SBRP — 1995-2004)**

<i>Environmental Health Perspectives</i>	176
<i>Environmental Science and Technology</i>	159
<i>Toxicological Sciences</i>	120
<i>The Toxicologist</i>	104
<i>Toxicology and Applied Pharmacology</i>	99
<i>Environmental Toxicology and Chemistry</i>	86
<i>Carcinogenesis</i>	57
<i>Applied and Environmental Microbiology</i>	56
<i>Water Resources Research</i>	53
<i>Chemical Research in Toxicology</i>	52



Should translation and outreach activities  
be embedded in disciplinary practices?



# What candidate vocabularies are relevant?

- Health promotion
- Risk communication
- Science and technology studies
- Technology transfer
- Knowledge transfer
- Clinical practice improvement
- Others?



Are general criteria appropriate?

# *Points of Distinction*

## *Points of Distinction* A Guidebook for Planning & Evaluating Quality Outreach



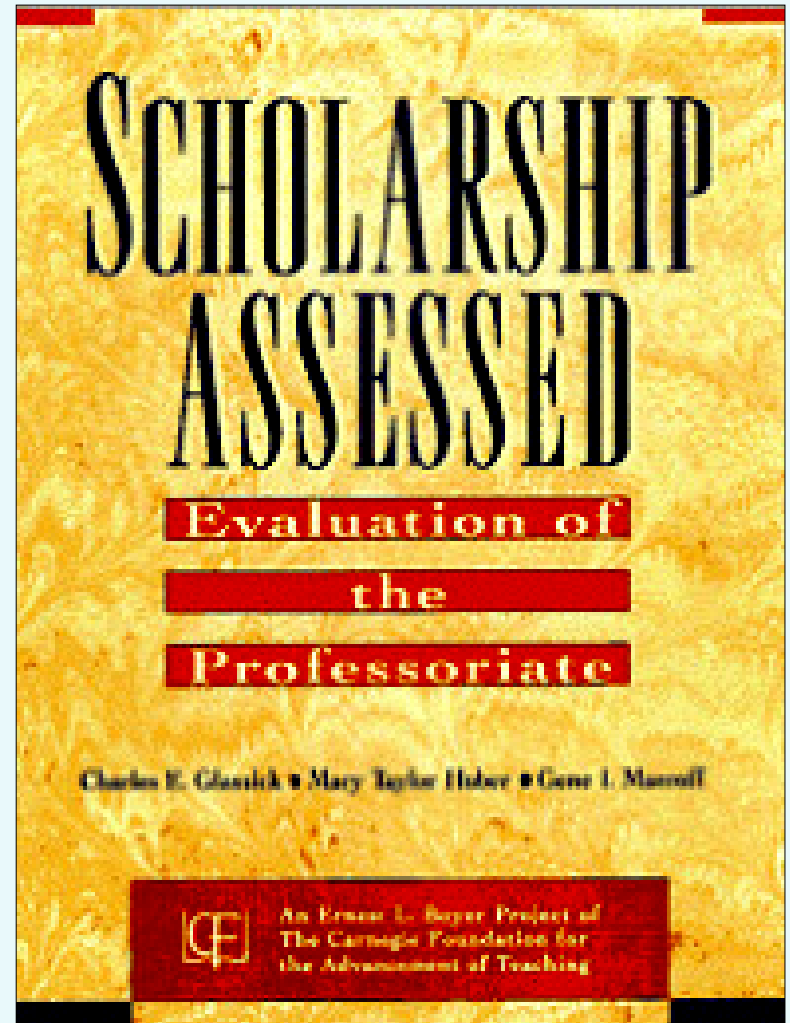
**MICHIGAN STATE**  
**UNIVERSITY**

- significance
- context
- scholarship
- impact



# *Scholarship Assessed*

- Clear goals
- Adequate preparation
- Appropriate methods
- Significant results
- Effective presentation
- Reflective critique





# Applying the models: Work in Progress



# Well Water Arsenic: Evaluating our logic

**Clear goals:** [interviews](#) (EPA, DES, colleagues in NH, ME CT, RI); [literature review](#) (health behavior change)

**Adequate Preparation:** [literature review](#) (+ risk communication, radon); [survey](#) of water treatment professionals

**Appropriate methods:** [literature review](#) (+ web design); [research](#) on demographics of web use in NH; [feedback](#) from EPA, DES, WTPs, potential users

**Appropriate presentation:** [review/critique](#) existing web sites; [consultants](#) on health literacy and web accessibility



# Well Water Arsenic: Evaluating our logic

**Significant Results:** beta testing with potential users;  
what has changed?

**Reflective Critique:** publication



# Lead Screening Initiative: Using a Logic Model

What is it?

- a visual depiction of a program
- a simple description of the “logic” underlying the program
- a logical chain connecting processes with expected outcomes
- a series of “if -- then” statements



# Lead Screening Initiative: Using a Logic Model

## What can it do?

- Shows the 'chain of events' that link inputs to results
- Helps bring detail to broad, fuzzy goals
- Summarizes key elements of a program
- Clarifies difference between activities and outcomes
- Builds in evaluation criteria
- Builds consensus on what the program is



# Lead Screening Initiative: Using a Logic Model

Lead Screening Initiative  
DRAFT Plan for Phase 2  
22 Jun. 2005

**Problem Statement:** Due its volume of older housing, Manchester falls under criteria set by the CDC requiring blood lead screening of all one- and two-year-old children. However, screening rates in the city are sub-optimal: in 2004, 61 percent of one-year-olds and 34 percent of two-year-olds were screened. Published studies have identified common obstacles to screening (knowledge/awareness of practitioner; practitioner agreement about applicability to patient population; challenge to practitioner autonomy; transient patient population; language barriers, lab off-site; billing). Findings from our pilot project are consistent with these studies, and with other studies identifying barriers to physician adherence to clinical practice guidelines. In addition, our pilot project identified the impact of practice systems as an important factor affecting screening rates.

# Lead Screening Initiative: Using a Logic Model

resources	activities	outputs	outcomes	impacts
<p>Time (Dartmouth MHD)</p> <p>Dartmouth libraries</p> <p>DMS and MHD experience, expertise</p> <p>Literature on practice improvement and practice guideline compliance</p> <p>Funding for lunch, trainers etc</p> <p>Good relationships of MHD/local docs</p> <p>Med School affiliation for CNN credit</p>	<p>Return findings of lunchtime sessions to practices and invite them to participate in MHD-facilitated quality improvement sessions</p> <p>Work with DMS to secure CNE credit</p> <p>Work with Concord FP to develop intervention and to train facilitators</p> <p>Facilitate sessions with five practices.</p> <p>Track improvement for at least one year</p>	<p><i># of additional children screened after intervention</i></p> <p><i># of additional children treated after intervention</i></p> <p><i># of professionals in city practices with improved skills and office systems targeting lead</i></p> <p><i># of MHD personnel trained in Quality Improvement coaching</i></p> <p>Screening rates improve by 15% in intervention practices</p>	<p>Screening rates improve in a high-risk region of the city</p> <p>MHD has new capacity to work with city practices on quality improvement issues, particularly lead screening</p> <p>Practices acquire office systems skills that can be applied to other environmental health issues (asthma, etc.)</p>	<p>More Manchester children are diagnosed and treated early, so lead-related health outcomes are reduced</p>

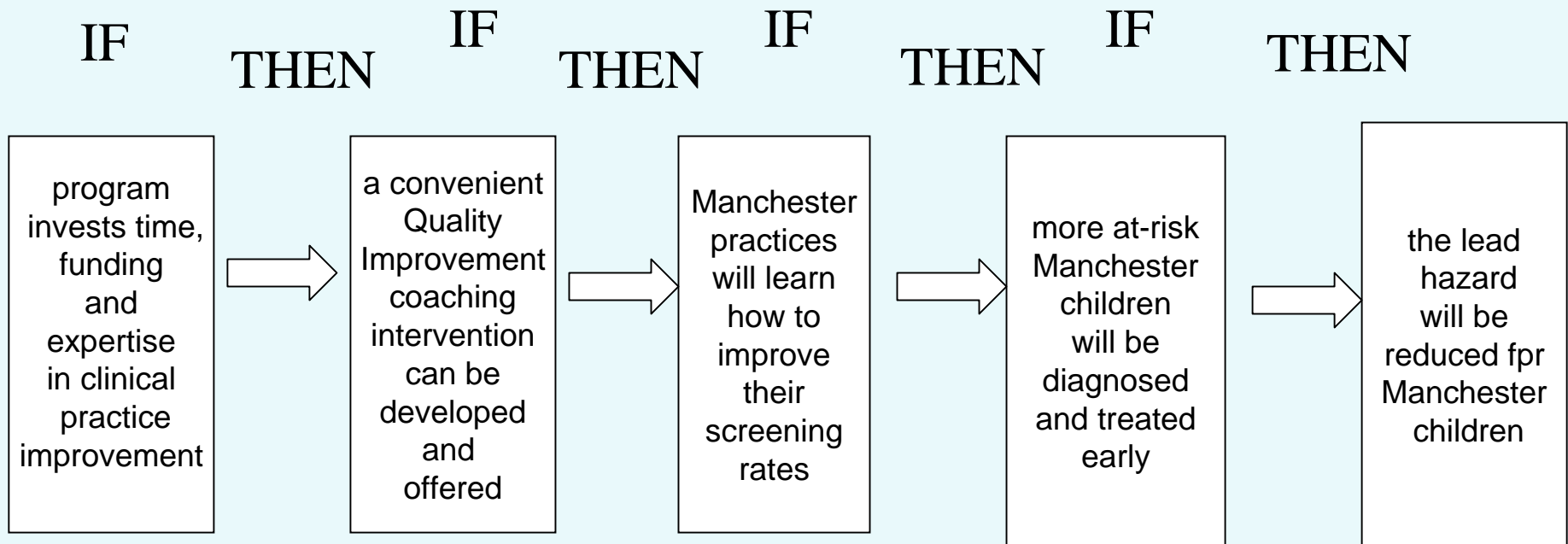




# Lead Screening Initiative: Using a Logic Model

Assumptions	Influential Factors
Practices will be willing to participate intervention (time commitment).	Insurance policies: (cover screening and treatment? proactive in promoting screening?)
Practices will be willing to share screening data w Health Dept.	Screening surveillance data (accurate, accessible and up-to-date?)
Lunch and CNE credit will be incentives	

# Lead Screening Initiative: Using a Logic Model





Just do it.